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A NEW WHITE-WINGED DOVE FROM GUATEMALA

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Observations in the field in Guatemala and a review of specimens of white-winged doves taken in that country convince me that the highland form which breeds in the temperate zone of the Departments of Chimaltenango and Sololá is decidedly different in habits and appearance from those present in the arid tropical zone. Heretofore all of these whitewings have been considered to be *Zenaida asiatica asiatica*, but the highland form is herewith described and named:

Zenaida asiatica alticola, subsp. nov.
Guatemalan Highland White-winged Dove

Characters.—Nearest to *Zenaida asiatica mearnsi* in dimensions, but with wings and tail averaging longer. In coloration, the back is a darker brown, usually from Chestnut Brown* to Mummy Brown or Sepia. The breast also averages darker, usually being Snuff Brown, but in a few specimens is lighter, nearer Tawny Olive. The darker coloration usually extends farther down on the belly than in *mearnsi*.

In comparison with *asiatica*, *alticola* has much longer wings and tail, and is darker on the back than most specimens of *asiatica*.

In comparison with typical *australis* from Costa Rica, *alticola* is conspicuously larger, darker brown on the back and wings, darker and more extensively purplish on the crown, occiput and hindneck, slightly darker brown on the throat and breast, and grayer on the belly.

Description.—Type, No. 397507 U. S. National Museum (Fish and Wildlife Service Collection), adult ♂, breeding, collected near Patzún, Department of Chimaltenango, Guatemala, altitude about 6,900 feet, March 5, 1942, by George B. Saunders, original No. 1612.

Measurements.—Males.—Patzún (8 specimens), wing 164.5-173.0 (167.9), tail 116.6-129.5 (122.0), culmen 19.0-21.9 (20.2), tarsus 23.6-26.3 (25.3).

Females.—Patzún (6 specimens), wing 153.0-162.0 (156.7), tail 104.0-113.3 (109.9), culmen 18.5-20.0 (19.2), tarsus 24.0-24.8 (24.4).

Type, male, wing 173.0, tail 122.5, culmen 20.8, tarsus 25.7.

Comparative measurements of specimens of *mearnsi* from the southwestern United States, Mexico and Guatemala:

Males.—

Arizona (22 specimens), wing 156.0-170.4 (161.2), tail 106.7-123.5 (116.5), culmen 20.8-24.8 (22.4), tarsus 23.1-26.1 (25.0).

*Names of colors when capitalized are from Ridgway's "Color Standards and Color Nomenclature," 1912.

Sonora (8 specimens), wing 163.0-172.6 (166.7), tail 112.7-126.7 (122.4), culmen 20.7-23.7 (22.3), tarsus 24.8-26.2 (25.4).

Guatemala, Upper Motagua Valley (7 specimens), wing 158.2-169.9 (162.9), tail 113.3-121.0 (116.0).

Guatemala, Department of Santa Rosa, Progreso (6 specimens), wing 164.0-168.0 (165.6), tail 115.6-120.4 (117.6).

Females.—

Arizona (18 specimens), wing 148.0-161.0 (156.4), tail 103.8-113.1 (109.1), culmen 20.7-25.4 (22.0), tarsus 22.8-27.0 (24.2).

Guatemala, Department of Santa Rosa, Progreso (6 specimens), wing 154.2-164.7 (157.8), tail 104.0-110.7 (107.5).

Measurements of specimens of *asiatica* from Chiapas and Texas:

Males.—

Chiapas (1 specimen), wing 158.1, tail 112.0, culmen 20.0, tarsus 24.8.
Southern Texas (18 specimens), wing 155.2-162.0 (157.9), tail 105.3-113.0 (108.9).

Females.—

Chiapas near Tonalá (2 specimens), wing 152.0-152.5 (152.3), tail 99.7-102.0 (100.9), culmen 20.1-20.6 (20.4), tarsus 23.0-25.0 (24.0).

Southern Texas (8 specimens), wing 151.3-159.1 (155.1), tail 100.0-106.0 (104.1).

Comparative measurements of specimens of *australis* from Costa Rica:

Males.—

Tenorio, C.R. (3 specimens), wing 158.8-160.0 (159.3), tail 109.0-114.1 (111.1), culmen 17.5-20.0 (18.7), tarsus 23.8-25.0 (24.6).

Cerro Santa Maria (type locality), measurements as given by Peters (1913), (5 specimens), "wing 152-161 (157.6), tail 110-114 (111.9)".

Females.—

Cerro Santa Maria (type locality), measurements as given by Peters (1913), (3 specimens), "wing 150-156 (153.6), tail 111-113. (112)".

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Range.—This race is apparently resident throughout the year in the Altos or central highlands of Guatemala in the Departments of Chimaltenango and Sololá. It probably also occurs locally in similar mesophytic pine and oak woodlands, chiefly at altitudes of from 6,500 to 8,500 feet, in the Guatemalan Departments of Huehuetenango, El Quiché, San Marcos, Totonicapán, and Quezaltenango.

A specimen in the collection of the University of Michigan Museum of Zoology, taken near Mazapa, Department of Mariscal, State of Chiapas, Mexico, (No. 110129, male, July 14, 1941) only a few miles west of the Guatemalan frontier, is apparently referable to this form. It is very similar in coloration to the type specimen, and its measurements are: wing 169.4, tail 118.8, culmen 21.6, and tarsus 25.1. I have

not visited this locality, but information indicates that the specimen probably came from a highland pine forest on the slope of Mt. Tacaná, an environment similar to that of the Guatemalan Altos.

On the basis of this specimen it seems advisable to include in the range of *alticola* this edge of Chiapas which is a continuation geologically of the Guatemalan Altos and has similar plant and animal associations.

Remarks.—The most outstanding characteristic of this form is the early season at which it breeds. In January, when frosts were common in these high woodlands, and weeks before any of the *mearnsi* or *asiatica* at lower elevations were found nesting, *alticola* began breeding. Natives near Patzún reported catching several fledglings during the latter part of January. All of the adults collected in that vicinity during March 1942 had been breeding for several weeks. Juveniles approximately four weeks old were seen there on March 5.

This early breeding, their occupation of high pine and oak woodlands, their larger size, and darker coloration distinguish them from the *mearnsi* and *asiatica* found at lower elevations.

I have studied this species in the field in the United States, Mexico, Guatemala and El Salvador, and examined specimens from its entire range. Of all the various subspecies of *Zenaida asiatica* I have observed, *alticola* is most strikingly and distinctively characterized by its habits and habitat.

In the high pine and oak woodlands on the rugged hill and mountain slopes of the Altos above Sololá, at an altitude of 7,500 feet where on the morning of March 5, 1942 we awakened to find ice on our sleeping bags, *alticola* males were singing their territorial songs and feeding fledglings hatched in February. Below, at altitudes of from 500 to 5,000 feet, pairs of *mearnsi* were only then entering the breeding cycle, although their habitat in the arid tropical and subtropical woodlands of the interior with its hot weather should have been more conducive, one would think, to earlier nesting than the cool environment of the highlands.

Even farther below on the sweltering slopes of the Pacific littoral, and especially eastward in the tropical valleys of the Lempa and San Miguel rivers, El Salvador, where the thermometer was well above 100° at midday, there were large flocks of *asiatica* feeding in the fields and open woodland. Their bodies were heavy with winter fat and their gonads small. Most of these were migrants from the north. There in the lowlands several *asiatica* banded as nestlings in the Rio Grande delta of Texas had been shot in late autumn, winter and spring by local hunters. As the latter part of March arrived, flocks of these individuals from eastern Mexico and southern Texas began the flight northward. They first went toward the west and northwest as far as the Isthmus of Tehuantepec, then along the Gulf littoral of eastern Mexico to their breeding grounds.

The taxonomy of white-winged doves in southern Mexico and Central America is complicated greatly by the presence of so many migrant *asiatica* during late autumn, winter and spring. By far the majority of specimens in museum collections have been collected then and are of no value in determining the identity of the breeding form or forms.

No wonder *asiatica* has been thought to be the resident race throughout Central America. Not until several of the more than 3,000 whitewings we banded in southern Texas were taken by hunters in El Salvador and Guatemala in 1940, was it realized that *asiatica* from the United States journeyed so far southward.

Extensive collecting has proved that *mearnsi* is the most common and widely distributed breeding form in Guatemala. It is resident in the dry tropical and subtropical woodlands of the lower mountain slopes and in the arid interior valleys and plains, usually above 500 feet in altitude.

The race *alticola* is present locally in the central highlands, chiefly above 6,500 feet.

The race *asiatica* occurs locally as a breeder in the low tropical woodlands near the Caribbean and Pacific coasts. All specimens collected in March, and some in April were non-breeders and probably migrants as was proved by their fatness and small gonads. But records for late April in the lowlands of the Departments of Escuintla, Jutiapa and Santa Rosa included some breeders. During the winter months migrant *asiatica* are present in many parts of the Republic, including the interior valleys and mountains as well as on both coastal plains.

Summary.—The new race of white-winged dove, *Zenaida asiatica alticola*, described herein, is resident in the central highlands of Guatemala in temperate zone pine and oak forests, chiefly above 6,500 feet in altitude. It is distinguished by its large size, especially its long wings and tail, as well as by its rich, dark coloration. In spite of its higher, colder habitat, this form breeds earlier in the year than any race of white-winged dove yet studied in detail. Thus its ecological distribution, breeding habits, coloration and size all set it apart from other known races of this species.

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